

# PATENT COOPERATION TREATY

## PCT

## TRANSLATION (partial)

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP2004/003838	International filing date (day/month/year) 22.03.2004	Priority date (day/month/year) 22.03.2003
International Patent Classification (IPC) or national classification and IPC  Int. Cl. G09B19/06		
Applicant  SunFlare Co., Ltd.		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p>3. <input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p style="margin-left: 40px;">These annexes consist of a total of <u>1</u> sheets.</p> <p>4. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the report</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of the invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement</li> <li>VI <input checked="" type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input type="checkbox"/> Certain observations on the international application</li> </ul>
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Date of submission of the demand  21.10.2004	Date of completion of this report  25.03.2005
Name and mailing address of the IPEA/JP Japanese Patent Office	Authorized officer MATSUKAWA, Naoki
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No

PCT/JP2004/003838

## I. Basis of the report

1.

2. This report has been drawn on the basis of (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)

☐ the international application as originally filed.

☒ the description, pages 1-13, as originally filed,  
pages \_\_\_\_\_, filed with the demand,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

☒ the claims, Nos. \_\_\_\_\_, as originally filed,  
Nos. \_\_\_\_\_, as amended under Article 19,  
Nos. \_\_\_\_\_, filed with the demand,  
Nos. 1-5, filed with the letter of 09.12.2004,  
Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

☒ the drawings, sheets/fig 1-4, as originally filed,  
sheets/fig \_\_\_\_\_, filed with the demand,  
sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

3. The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☒ the claims, Nos. 6

☐ the drawings, sheets/fig \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP2004/003838

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-5	YES
	Claims		NO
Inventive step (IS)	Claims	1-5	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-5	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

## Citation 1:

Intelligent English Writing Education Online Aiding system by Using Template Automaton, Naoyuki TOKUDA, et al., Article of The institute of Electronics, Information at Communication Engineers, J84-D-1, No. 7, 01.07.2001

## Citation 2:

US 2001/044098 A1 (Benny g. JOHNSON et al.) 22. 11. 2001

Invention in claims 1 to 5 are neither disclosed in any of documents cited in the International Search Report nor obvious to those skilled in the art.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/JP2004/003838**VI. Certain documents cited**

## Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date ( valid claim) (day/month/year)
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JP 2003-150584 A (E, A)	23.05.2003	16.11.2001	
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**2. Non-written disclosures (Rule 70.9)**

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)
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**AMENDMENT**

(Amendment according to Rule 11)

To: Examiner of the Patent Office

1. Identification of the international Application

PCT/P2004/003838

2. Applicant

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4. Item to be Amended: Claims

5. Subject Matter of Amendment

(1) In claim 1 on page 14 for the claims, amend "A dialogue learning system having a template-template structure based on extraction rules and exploiting the expanding power of buggy

rules," into "A computer-aided template-template structured dialogue learning system which, in a template structure for providing natural language expression, exploits the extracting power of buggy rules based on the deviations thereof from those produced by production rules providing regular grammar of natural language, and which uses a template-template structure,".

(2) Amend claim 2 as per the appended sheet.

(3) Amend claim 5 into claim 3 (amended) by changing the serial numbers thereof.

(4) Amend claim 4 as per the appended sheet.

(5) Amend claim 5 as per the appended sheet.

(6) Cancel claim 6.

#### 6. List of Attached Documents

Replace sheet of page 14

## Claims

1 (amended) A computer-aided template-template structured dialogue learning system which, in a template structure for providing natural language expression, exploits the extracting power of buggy rules based on the deviations thereof from those produced by production rules providing regular grammar of natural language, and which uses a template-template structure where some of nodes in the template-template structure are marked with extracting rule-associated symbols enabling the extraction of many templates or a so-called large template.

2 (amended) A computer-aided learning dialogue system according to claim 1, which uses a template-template scheme that is designed so that in order to extract and expand a single slim template-template to a plurality of templates or a larger template some nodes of a template are assigned with extractions rule-associated special symbols corresponding to the transition nodes thereby enabling expansion and extraction to a fat template or many templates.

3 (amended) A computer-aided learning dialogue system according to claim 1, which is based on a extraction rule wherein the extraction rule is always associated with a set of symbols,  $\{s_1, s_1, \dots, s_n\}$ , and each of the symbols is assigned to one or more nodes in the template, and one or more values

is assigned to the associated symbols.

4 (amended) A computer-aided learning dialogue system according to claim 1, which is based on buggy rules wherein an automatic bug diagnostic function which is obtained by expansion of existing buggy rules to define as bugs deviations caused by incorrect application of production rules providing regular grammar of language to be learned from the rules is used to expand a single slim template-template into a larger template or a thicker template, thus enabling automatic diagnosis of grammatical errors committed by a learner.

5 (amended) A computer-aided learning dialogue system according to claim 1, wherein a path optimized for an input sentence is found from all paths that are extractable directly from an template-template without expanding the template-template to a larger template or thicker template, by using an HCS matching (heaviest common sequence) algorithm with which on digraph the most heaviest common sequence is selected by a dynamic programming from common sequences assigned to words on the templates.

6 (cancelled)